

### REMARKS

The Applicants appreciate the Examiner's very quick and courteous Action.

Claims 1-9, 11, 13-14, 16-18, 20-27, 29, and 32 are pending in the application. Claims 1-9, 11, 13-14, 16-18, 20-27, 29, and 32 were rejected. Claims 10, 12, 15, 19, 28, 30-31 and 33 have been canceled without prejudice to the Applicants' right to present such claims at a later date in a continuing application. Claims 9 and 27 have been amended herein; no new matter has been added.

The previous Examiner had allowed claims 1-9, 11 and 21-27, for which the Applicants were very appreciative. The previous Examiner also helpfully indicated that claims 19, 31 and 33 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, for which the Applicants were also greatly appreciative. With the Amendment filed 8 April 2008 (rather than 8 January 2008 as shown on the 17 June 2008 Office Action Summary), the Applicants fully expected all of the claims to be allowed.

The new Examiner noted that the indicated allowability of claims, and subject matter, of claims 1, 5-8, 19, 21 and 31 is withdrawn in view of the newly discovered reference(s) to Ohsol (US 5,948,242). Rejections based on the newly cited reference(s) follow.

#### Rejection Under 35 U.S.C. §103 over Ohsol, et al. in view of Reynolds and Hsu, et al.

The Examiner has rejected claims 1, 5-8, 21, 22 and 24 under 35 U.S.C. §103(a) as allegedly being unpatentable over Ohsol, et al. (US 5,948,242) in view of Reynolds (US 4,778,589) and Hsu, et al. (US 4,415,426) for reasons of obviousness. The Examiner finds that Ohsol teaches a process for upgrading heavy oil comprising adding salt free water to the oil to remove salt and then adding a chelating agent (see Ohsol, col. 4, lines 19-23). The Examiner notes that the chelating agent may be glycolic acid (which is a hydroxy acid) (see Ohsol, claim 21). The amount of chelating agent added is found by the Examiner to

range between 100 and 2000 ppm (see, col. 4, lines 33-40). The Examiner also notes that Ohsol teaches that when the chelating agent is used, heavy metals are attracted to the water-soluble chelating agent (see col. 4, lines 59-60). The Examiner admits that Ohsol does not teach that the hydroxy acid is added to the oil via an aqueous solution. The Examiner further concedes that Ohsol also fails to teach the use of electrostatic coalescence to promote the separation of the emulsion of Ohsol.

However, the Examiner asserts that Reynolds teaches a process for removal of metals from a hydrocarbon feedstock, and that the reference teaches mixing the feedstock with an aqueous solution of a metal sequestering agent. (See Reynolds, abstract). The Examiner further notes that Reynolds teaches that the metals sequestering agent can be a chelating agent. Reynolds is further seen by the Examiner to teach that the pH can be above 2 or between 5 or 9. See col. 2, lines 43-50. The reference teaches that this process is effective for removal of metals such as calcium, according to the Examiner.

The Examiner then contends that it would have been obvious to one having ordinary skill in the art at the time of the invention to modify the process of Ohsol by using an aqueous solution as a vehicle to add the glycolic acid to the oil as suggested by the teachings of Reynolds because of the expectation of successfully mixing the chelating agent into the oil. The Examiner further alleges that it would have been obvious to use pH of 2 or 5 to 9 in the Ohsol process.

Also, the Examiner asserts that the use of electrostatic coalescence to promote the separation or resolution of an emulsion is notoriously well known. For example, Hsu teaches that use of electrostatic coalescence to treat an emulsion results in faster coalescence of the emulsion (see abstract). The Examiner further contends that it would have been obvious to have used electrostatic coalescence as taught by Hsu to promote the separation or resolution of the emulsion of Ohsol.

The Applicants must respectfully traverse. To support an obviousness rejection, the Examiner has the initial burden of establishing a *prima facie* case of obviousness of the pending claims over the cited prior art, *In re Oeticker*, 977 F.2d 1443, 1445; 24 U.S.P.Q.2d 1443 (Fed. Cir. 1992). The Applicants will respectfully ascertain that the Examiner has not established a *prima facie* case of obviousness of the claims herein.

The claims require adding to the wash water of a refinery desalting process an effective amount of a composition to transfer metals and/or amines from a hydrocarbon phase to a water phase. The composition comprises at least one water-soluble hydroxyacid, such as a C<sub>2</sub>-C<sub>4</sub> alpha-hydroxy acid, where the pH of the wash water is lowered to 6 or below, the wash water is added to the crude oil to create an emulsion, and where the emulsion is resolved into the hydrocarbon phase and the aqueous phase using electrostatic coalescence.

The Applicants respectfully submit that Ohsol, et al. covers a thermal process, not a desalting process, and that the two process types are incompatible. That Ohsol, et al. is a thermal process may be seen from column 3, lines 40-44; column 5, lines 13-25, claim 1 and elsewhere. As the Examiner admits, Ohsol, et al. does not disclose, hint or suggest electrostatic coalescence, electrical grids, or the like. The Applicant respectfully submits that there is no teaching, hint or suggestion in either Ohsol, et al. or Hsu, et al. to replace or augment the thermal/physical separation process of Ohsol, et al. with the electrostatic coalescence process of Hsu, et al.

More specifically, the separation used first in Ohsol, et al. is a flashing process, which cannot remove metals since they are not volatile, and then a hydrocyclone separator or a continuous centrifuge. Please see column 5, lines 26-55. This is not the same process as a desalter, as claimed.

Even more particularly, the Ohsol, et al. process flashes off the solvent and water phases early in the process before any oil/water separation occurs (column 4, lines 24-27). The disclosed temperatures of 200-400°F (column 5, line 15) are high enough that the glycolic acid could be flashed off with the solvents and thus

not even present in the process downstream. The boiling point of glycolic acid, 70% technical solution, is 234 °F (112 °C) (page 3). It would be expected that significant amounts, if not all, of the acid would be lost with the water/solvent in this step of Ohsol, et al. – especially with any pressure reduction – and not be available in any downstream separation. It would thus be impossible to practice the invention claimed herein with the Ohsol, et al. process. The part of Ohsol, et al. where it mentions the separation of oil/water phases does not occur until the hydrocyclone separator (column 5, lines 38-42).

For both of these reasons, the Applicants respectfully submit that the primary Ohsol, et al. reference is not analogous to the technology of the claims, and is non-analogous art. If the teaching is outside the art area, it must be shown that a person of ordinary skill would have considered it. *Ex parte Murphy and Burford*, 217 U.S.P.Q. 479, 482 (Bd. of App., 1982). Non-analogous art is not properly prior art; the examiner cannot pick statements out of their proper context. *In re Pagliaro*, 657 F.2d 1219, 1225; 210 U.S.P.Q. 888, 892 (C.C.P.A. 1981). The Applicants respectfully submit that the Examiner has not established why one having ordinary skill in the art of electrostatic coalescence would find Ohsol, et al. pertinent, helpful or relevant at all since it uses an entirely different process.

Further, Ohsol, et al. teaches the addition of *basic* neutralizers such as caustic to the crude, as in column 4, lines 61-67:

Free acid contamination from naphthenic acids, mercaptans or phenols which cause corrosion and product degradation can be substantially removed by injecting stoichiometric amounts of *neutralizing agents* into the crude mixture. Typical neutralizers could be *sodium hydroxide, sodium carbonate, sodium borate, or ammonia*. The neutralized acids will pass into the water phase. (Emphasis added.)

Addition of caustic can raise the pH of the system above the pH of 6 or below recited and required in all of the claims herein, and thus the disclosure of Ohsol, et al. is in direct opposition to the claims. In the method of the pending claims, acid (*e.g.* glycolic, alone or together with sulfuric) is added to *reduce* pH as

recited, whereas Ohsol, et al. is adding caustic to *raise* pH. Indeed, it may be understood that from this passage Ohsol, et al. in fact teaches away from the claimed invention.

“The relevant portions of a reference include not only those teachings which would suggest particular aspects of an invention to one having ordinary skill in the art, but also those teachings which would lead such a person away from the claimed invention.” *In re Mercier*, 185 U.S.P.Q. 774, 778 (C.C.P.A. 1975). In accord are *Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve, Inc.* 796 F.2d 443, 230 U.S.P.Q. 416 (Fed. Cir. 1986) and *Kloster Speedsteel AB v. Crucible Inc.*, 793 F.2d 1565, 230 U.S.P.Q. 81 (Fed. Cir. 1986), *on rehearing*, 231 U.S.P.Q. 160 (Fed. Cir. 1986), the latter decision instructing further that the inventor achieving the claimed invention by doing what those in the art suggested should not be done is a fact strongly probative of *nonobviousness*.

An obviousness rejection cannot stand if the references teach away from the invention, *In re Hedges* 228 U.S.P.Q. 685,687, 837 F.2d 473 (Fed. Cir. 1986). From the excerpt above, Ohsol, et al. teaches away from the claimed invention by recommending the addition of basic neutralizing agents to *raise* pH whereas the present claims require *lowering* the pH of the wash water to 6 or below and/or a composition containing a mineral acid, with a concomitant pH of 6 or below.

The Examiner looks to Reynolds for a teaching that the pH “can be above 2 or between 5 or 9”. However, as noted above in the excerpt from Ohsol, et al. column 4, lines 61-67, the primary reference instructs adding *basic* neutralizing agents. This completely contradicts the more acidic range of Reynolds. Thus, the Applicants respectfully submit that Ohsol, et al. and Reynolds are at odds with each other. Further, to combine them would destroy them each for their intended purpose since they conflict. An obviousness rejection is invalid if combining references as the examiner suggests would destroy them for their intended purpose; *Ex parte Westphalen*, 159 U.S.P.Q. 507 (Bd. App., 1967). Thus, for this additional reason alone, but especially when taken together with the other

difficulties with the references and the distinctions over the art, the Applicants respectfully submit that a *prima facie* obviousness rejection has not been made.

The Ohsol, et al. process also requires adding a diluent or solvent to the crude to dilute it (please see the Abstract, the Summary (column 2, line 59 to column 3, line 48), and the claims). In contrast, the process claimed herein works without dilution with hydrocarbon solvents. For economic reasons, such dilution is not wanted or desired in the claimed method. Once a solvent has been added in the Ohsol, et al. process, it is no longer a pure crude oil being treated. Ohsol, et al. modifies the crude oil to make their process work, while the presently claimed process employs a crude oil not so modified and processed in a normal or conventional desalting process.

The Ohsol, et al. reference is somewhat difficult to follow. It mentions that chelants may be added to attract heavy metals from the solids (column 4, lines 57-60). In Example 2, at column 12, lines 1-6, Ohsol, et al. states that a chelant is added to the solids removed at **76**: “An optional additional step in which either or both of these streams is mixed with a suitable at about a 2 to 1 volume ratio of water containing a 2 to 5 percent concentration of a chelating agent such as, for example ethylene diamine tetracetic acid, EDTA, in solution as partial sodium salt.” In this case, it appears that the chelant is added to the solids *separated from the crude*, rather than to the *crude itself*. It thus appears that Ohsol, et al. is removing metals with a chelant from asphaltic or resinous materials in a separate process that *does not include crude oil*. Thus, the Applicants respectfully submit that this Example 2 is additional evidence that Ohsol, et al. is outside the area of technology of the pending claims, and further evidence that Ohsol, et al. is not analogous to the claimed invention.

While the Applicants stipulate that the use of electrostatic coalescence to promote the separation or resolution of an emulsion is known, the Applicants respectfully submit that the electrostatic coalescence of Hsu, et al. is very different from the method of the primary Ohsol, et al. reference (which is described more completely above), and that to combine their teachings would

also destroy them for their intended purposes, *Ex parte Westphalen*, *id.* As established above, Ohsol, et al. is a thermal process that first involves a flashing process, which cannot remove metals, since they are not volatile, and then uses a centrifuge or a hydrocyclone separator. At the least, the Ohsol, et al. process is so different from the Hsu, et al. that the Applicants respectfully submit that one having ordinary skill in the art in reviewing the two patents would have no idea how to meaningfully combine the teachings in a useful process with any expectation of success. Specifically, there is no teaching hint or suggestion to one having ordinary skill in the art which apparatus to retain or leave out of Ohsol, et al. and/or Hsu, et al. to supposedly result in the Applicant's invention as claimed. References may not be properly combined if there is no suggestion in any reference that they can be combined to give the applicant's result, *In re Shaffer*, 108 U.S.P.Q. 326 (C.C.P.A. 1956).

A similar problem is described above with respect to the supposed combination of Ohsol, et al. with Reynolds. Is the wash water to be acidic (Reynolds) or is it to be neutralized (Ohsol, et al.) with a base such as NaOH? "The mere fact that the prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification." *In re Gordon*, 733 F.2d 900, 902, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984) cited in *In re Mills*, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990), in turn cited by MPEP §2143.01.

"Our reviewing courts have often advised the Patent and Trademark Office that it can satisfy the burden of establishing a *prima facie* case of obviousness *only* by showing some objective teaching in either the prior art, or knowledge generally available to one of ordinary skill in the art, that 'would lead' that individual 'to combine the relevant teachings in the references.' Accordingly, an examiner *cannot* establish obviousness by locating references which describe aspects of a patent applicant's invention without *also* providing *evidence of the motivating force which would impel one skilled in the art to do what the patent applicant has done.*" [Citations omitted; emphasis added.] *Ex parte Levengood*,

28 U.S.P.Q.2d 1300, 1302 (B.P.A.I. 1993). The Applicants respectfully submit that the Examiner has provided no reason that would impel one having ordinary skill in the art to do what the Applicants have done, based only on the three references. Even in *KSR International Co. v. Teleflex, Inc.* 550 U.S. \_\_\_\_ 4, 127 S.Ct. 1727, 82 U.S.P.Q.2d 1385 (April 2007) slip opinion, the U.S. Supreme Court recognized that:

To determine whether there was an apparent *reason to combine* the known elements in the way a patent claims, it will often be necessary to look to interrelated teachings of multiple patents; to the effects of demands known to the design community or present in the market-place; and to the background knowledge possessed by a person having ordinary skill in the art. *To facilitate review, this analysis should be made explicit.* (Emphasis added.)

For all of these reasons, the Applicants respectfully submit that the Examiner has not established a *prima face* obviousness rejection over the references. Reconsideration is respectfully requested.

Rejection Under 35 U.S.C. §103 over Ohsol, et al. in view of Reynolds, Hsu, et al. and Crump, et al.

The Examiner has rejected claims 2-4, 23, 25 and 26 under 35 U.S.C. §103(a) as being allegedly unpatentable over Ohsol in view of Reynolds, Hsu and Crump (US 5,389,594). The Examiner concedes that Ohsol in view of Reynolds and Hsu do not disclose the addition of a mineral acid.

However, the Examiner asserts that Crump discloses that sulfuric acid is used to reduce the pH of a chelants mixture to about 4.2 (see Crump, col. 11, lines 45-66).

Therefore, the Examiner contends that it would have been obvious to one having ordinary skill in the art at the time of the invention to modify the process taught in Ohsol in view of Reynolds and Hsu to include the addition of sulfuric acid in order to lower the pH of the mixture to 4.2.



The Applicants must respectfully traverse. To support an obviousness rejection, the Examiner has the initial burden of establishing a *prima facie* case of obviousness of the pending claims over the cited prior art, *In re Oeticker, id.* The Applicants will respectfully show that the Examiner has not established a *prima facie* case of obviousness of the claims herein.

As noted above, Ohsol, et al. teaches the addition of basic neutralizers such as caustic to the crude, as in column 4, lines 61-67:

Free acid contamination from naphthenic acids, mercaptans or phenols which cause corrosion and product degradation can be substantially removed by injecting stoichiometric amounts of *neutralizing agents* into the crude mixture. Typical neutralizers could be *sodium hydroxide, sodium carbonate, sodium borate, or ammonia*. The neutralized acids will pass into the water phase. (Emphasis added.)

The addition of caustic as taught by the primary reference Ohsol, et al. can raise the pH of the system above the pH of 6 or below recited in all of the claims herein, and thus the disclosure of Ohsol, et al. is in direct opposition to the claims. In the method of the pending claims, acid (*e.g.* glycolic, alone or together with sulfuric) is added to *reduce* pH as recited, whereas Ohsol, et al. is *adding* caustic to *raise* pH. Indeed, it may be understood that from this passage Ohsol, et al. in fact teaches away from the claimed invention.

An obviousness rejection cannot stand if the references teach away from the invention, *In re Hedges, id.* From the excerpt above, Ohsol, et al. *teaches away from* the claimed invention by recommending the addition of basic neutralizing agents whereas the present claims require lowering the pH of the wash water to 6 or below and/or a composition containing a mineral acid.

Further, the Examiner looks to Reynolds for a teaching that the pH “can be above 2 or between 5 or 9”, and looks to Crump, et al. for a teaching that sulfuric acid can be used to reduce the pH of a chelants mixture. However, as established above in the excerpt from Ohsol, et al. column 4, lines 61-67, the primary reference instructs adding *basic* neutralizing agents. This completely contradicts the more acidic range of Reynolds and the addition of sulphuric acid of Crump, et al.

Thus, the Applicants respectfully submit that Ohsol, et al. and Reynolds or Crump, et al. are at odds with each other. Further, to combine the primary reference with either of these secondary references would destroy them each for their intended purpose since they directly conflict. An obviousness rejection is invalid if combining references as the examiner suggests would destroy them for their intended purpose; *Ex parte Westphalen*, 159 U.S.P.Q. 507 (Bd. App., 1967). Thus, for this reason alone the Applicants respectfully submit that a *prima facie* obviousness rejection has not been made.

Additionally, Crump, et al. does not supply the deficiencies of the rejection discussed above with respect to Ohsol, et al. in view of Reynolds and Hsu, et al. One of the most important deficiencies is that Ohsol, et al. and Hsu, et al. involve completely different processes from one another. Hsu, et al. relates to electrostatic coalescence, whereas Ohsol, et al. does not. Ohsol, et al. involves a process for upgrading heavy crude oil that involves adding a diluent not once, but twice (Abstract). The Ohsol, et al. method also requires heating (column 3, lines 40-42 and column 5, lines 13-56) including flashing the components and then separating them using hydrocyclone separators or a continuous centrifuge. The Applicants again respectfully submit that there is no motivation for combining the teachings of Ohsol, et al. with those of Hsu, et al., nor is there any direction in the references that would instruct one having *ordinary* skill in the art *how* to supposedly combine the teachings of these two references, for instance, which equipment should be included and which equipment should be deleted from each process, which steps should be included and which deleted from each process, etc., to necessarily result in the Applicants' claimed invention—but without using the Applicants' claim improperly as a blueprint.

The Applicants again respectfully submit that a *prima facie* obviousness rejection has not been established in this case. Reconsideration is respectfully requested.

Rejection Under 35 U.S.C. §103 over Crump, et al.

The Examiner has rejected composition claims 9, 11, 13, 14, 16-18, 27, 29, and 32 under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Pat. No. 5,389,594 to Crump, et al. for reasons of obviousness.

With respect to all but claim 20, the Examiner finds that Crump discloses chelants used in oil drilling that comprise one of citric acid, glyceric acid, gluconic acid, or glycollic acid, such chelants being useful in water. The oil/chelant mixture is contended by the Examiner to further comprise sulfuric acid to reduce the pH of the mixture to about 4.2. The amount of chelant in the wash water is seen by the Examiner to be about 0.01 to about 40 weight percent and corrosion inhibitors are included in the composition. See Crump, column 1, lines 16-27, column 11, lines 57-65, column 13, lines 22-29 and 57-64, column 14, lines 1-14, and column 16, lines 27-50.

The Examiner admits that Crump does not specifically disclose that oil is mixed with the water and chelant, etc. However, the Examiner contends that it would have been obvious to one skilled in the art at the time of the invention would have known that a chelants/water mixture useful in oil drilling would have resulted in a composition comprising oil, water, and chelant.

With respect to claim 20, the Examiner finds that Crump, et al. does not disclose that the composition of the treated crude oil contains more than 10 ppm iron or calcium. However, the Examiner contends that it would have been obvious to one having ordinary skill in the art at the time of the invention to adjust the contact time, the amount of chelants added and to choose a crude oil feed having a high metals content in order to achieve a desired amount of metal content in the crude oil product.

Once more, the Applicants respectfully traverse.

To support an obviousness rejection, the Examiner has the initial burden of establishing a *prima facie* case of obviousness of the pending claims over the cited prior art, *In re Oeticker, id.*

The Applicants would respectfully direct the Examiner's attention to the fact that independent claims 9 and 27 have been amended to recite that the additional component is a demulsifier. Thus, these composition claims and claims dependent thereon require water, a water-soluble organic acid selected from the defined group, a mineral acid and a demulsifier, where the pH of the composition is 6 or below. The Applicants respectfully submit that Crump, et al. does not suggest such a composition. The only place Crump, et al. teaches a mineral acid (*e.g.* sulfuric acid) is for replenishing a lower molecular weight chelate; column 11, lines 59-66. The chelate is used in removing nitrogen oxides from fluids (column 10, line 38 to column 11, line 56). There is no teaching or suggestion about a mineral acid also being present with water, a water-soluble organic acid *and a demulsifier*. The Applicants respectfully submit that a *prima facie* rejection of these claims has thus not been made. Reconsideration is respectfully requested.

Additionally, with respect to claims 14, 16-18, 20, 29 and 32, these claims concern a treated hydrocarbon crude oil emulsion, which comprises *crude oil*, a composition for transferring metals and/or amines from a hydrocarbon phase to a water phase which composition comprises a water-soluble hydroxyacid, wash water of pH 6 or below, a mineral acid and at least one additional component. The Examiner admits that Crump, et al. does not disclose that oil is mixed together with the water and the chelant, but that one having ordinary skill in the art would supposedly have known that a chelants/water mixture useful in oil drilling would have resulted in a composition comprising oil, water and chelants. However, the only place a mineral acid is mentioned as part of Crump, et al.'s compositions is in column 11, lines 59-66, and here again it is only as part of a composition for replenishing a lower molecular weight chelate, and only then in a process for removing nitrogen oxides from fluids – where crude oil is not identified as one of the fluids (column 10, line 38 to column 11, line 56). There is no teaching or suggestion that a crude oil would be present in such compositions. Thus, the Applicants respectfully submit that a *prima facie* case of obviousness of

these claims over Crump, et al. has not been made. Reconsideration is respectfully requested.

The Applicants further respectfully submit that Crump, et al. does not teach, suggest or disclose anything useful in their patent about how to use chelates in oil drilling. The Examiner refers to the background section of Crump, et al. column 1, lines 16-27 where previous technology is discussed, in which the Applicants have numerals to tally the various applications:

Chelants are used in a variety of applications including [1] food processing, [2] soaps, [3] detergents, [4] cleaning products, [5] personal care products, [6] pharmaceuticals, [7] pulp and paper processing, [8] water treatment, [9] metalworking and [10] metal plating solutions, [11] textile processing solutions, [12] fertilizers, [13] animal feeds, [14] herbicides, [15] rubber and polymer chemistry, [16] photofinishing, and [17] oil field chemistry. Some of these activities result in chelants entering the environment. For instance, agricultural uses or detergent uses may result in measurable quantities of the chelants being in water. It is, therefore, desirable that chelants degrade after use.

From this excerpt, seventeen (17) different classes or categories of applications are simply and merely listed, without any guidance or description about how chelants were or may be used in either the classes or specific applications within a class. The Applicants would further respectfully direct the Examiner's attention to column 5, lines 40-59, where again the Applicants have inserted numerals to count the large number of applications:

Chelants of the invention are useful, for instance, [1] in food products vulnerable to metal-catalyzed spoilage or discoloration; [2] in cleaning and laundering products for removing metal ions, e.g. from hard water, that may reduce the effectiveness, appearance, stability, rinsibility, bleaching effectiveness, germicidal effectiveness or other property of the cleaning agents; [3] in personal care products like creams, lotions, deodorants and ointments to avoid metal-catalyzed oxidation and rancidity, turbidity, reduced shelf-life and the like; [4] in pulp and paper processing to enhance or maintain bleaching effectiveness; [5] in pipes, vessels, heat exchangers, evaporators, filters and the like to avoid or remove scaling, [6] in pharmaceuticals; in metal working; [7] in textile preparation, desizing, scouring, bleaching, dyeing

and the like; [8] in agriculture as in chelated micronutrients or herbicides; [9] in polymerization or stabilization of polymers; [10] in photography, e.g. in developers or bleaches; [11] in the oil field such as for drilling, production, recovery, hydrogen sulfide abatement and the like.

These eleven (11) different classes or categories of applications are somewhat more descriptive than the section at column 1, lines 16-27, but they are still vague and indefinite in how the Crump, et al. chelants are to be used; precious little guidance, suggestions or hints for practical use are provided. One of even extraordinary skill in the art would have no clue how to use Crump, et al.'s chelants in oil drilling. The USPTO Board of Patent Appeals and Interferences stated in the case of *Ex Parte Obukowicz*, 27 U.S.P.Q.2d 1063 (B.P.A.I. 1992) that a prior art reference that only gives general guidance and is not at all specific as to the particular form of the claimed invention and how to achieve it may make a certain approach "obvious to try" but does not make the claimed invention obvious. "Obvious to try" has long been held not to constitute obviousness, *In re O'Farrell*, 853 F.2d 894, 903, 7 U.S.P.Q.2d 1673, 1680-81 (Fed. Cir. 1988). A general incentive does not make obvious a particular result, nor does the existence of techniques by which those efforts can be carried out, *In re Deuel*, 51 F.3d 1552, 1559, 34 U.S.P.Q.2d 1210 (Fed. Cir. 1995).

The Applicants are aware of *KSR International Co. v. Teleflex, Inc.* 550 U.S. \_\_\_\_ 17, 127 S.Ct. 1727, 82 U.S.P.Q.2d 1385 (April 2007) slip opinion, that states:

When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. In that instance the fact that a combination was obvious to try might show that it was obvious under §103.

However, *KSR International Co. v. Teleflex, Inc.* did not eliminate the need to identify motivation for modifying a reference's teachings to necessarily result in

the claimed invention. “Although common sense directs caution as to a patent application claiming as innovation the combination of two known devices according to their established functions, *it can be important to identify a reason that would have prompted a person of ordinary skill in the art to combine the elements as the new invention does.*” *Id.*, at 5. Further, here there are not “a finite number of identified, predictable solutions”, only a very many, if not infinite, number of unidentified and/or unpredictable supposed ways to use Crump, et al.’s chelants in the vast technological fields of oil drilling, oil recovery and oil production.

The Applicants respectfully submit that the Examiner has not identified a reason within Crump, et al. why one having ordinary skill in the art would modify the compositions therein to become those recited in the rejected claims. There is no teaching or suggestion or motivation for the existence of a composition containing the acids mentioned at the bottom of column 11 with a demulsifier, nor for the existence of a composition containing the acids mentioned at the bottom of column 11 with crude oil. A vague reference to “oil field chemistry” or “in the oil field such as for drilling, production, recovery, hydrogen sulfide abatement” does not sufficiently suggest or enable one having *ordinary* skill in the art to design or guess at any useful compositions for such general applications.

For this additional reason, the Applicants respectfully submit that a *prima facie* case of obviousness has not been established for the present composition claims over Crump, et al. Reconsideration is respectfully requested.

It is respectfully submitted that the amendments and arguments presented above overcome the rejection. Reconsideration and allowance of the claims are respectfully requested. The Examiner is respectfully reminded of his duty to indicate allowable subject matter. The Examiner is invited to call the Applicants’

attorney at the number below for any reason, especially any reason that may help advance the prosecution.

Respectfully submitted,  
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